WHAT IS CLAIMED IS:

1. A semiconductor laser, comprising;

a semiconductor substrate;

a laser layer on said semiconductor substrate;

at least two waveguide ridges located at a distance from said laser layer, and

a first strip-shaped lattice structure comprising alternating portions of conducting and non-conducting or less conducting material, wherein said lattice structure is located on the flat portions of the surface between said ridges and at a distance from said laser layer above said laser layer.

2. A semiconductor laser according to claim 1, further comprising a second strip-shaped lattice structure located lateral to the two outermost of said waveguide ridges, wherein said lattice structure is located on the flat portions of the surfaces lateral to said outermost ridges and at a distance from said laser layer above said laser layer.

3. The semiconductor laser according to claim 1, wherein said lattice structure is located on a barrier or insulating layer wherein said barrier defines the position of said lattice structure relative to said laser layer.

4. The semiconductor laser according to claim 1, wherein said lattice structure comprises a metal.

5. The semiconductor laser according to claim 4, wherein said metal is chromium or a chromium alloy.

6. The semiconductor laser according to claim 1, wherein said first strip-shaped lattice structure is located adjacent to sides of said waveguide ridges, and wherein the width and spacing of said waveguide ridges are selected such that base points of the sides of said waveguide ridges are located in a peripheral region of radiation from an active zone of said laser layer.

7. A process for the production of a semiconductor laser based on a semiconductor substrate with a laser layer arranged on said semiconductor substrate and a strip-shaped lattice structure, the process comprising the steps of:

a) producing a complete semiconductor laser structure in an epitaxial process;

b) forming at least two waveguide ridges by removing material from said semiconductor;

c) laser structure so as to form carrier surfaces between said waveguide ridges and lateral to the outer of said waveguide ridges; and

d) applying a lattice structure to said carrier surfaces.

8. The process according to claim 7, wherein, preceding step (d), the step of forming an insulating layer on said carrier surfaces.

9. The process according to claim 8, wherein said lattice structure comprises alternating portions of a conductive and non-conductive or less conductive material.

10. The process according to claim 9, wherein said step of applying a lattice structure includes applying a metallic lattice structure with a lithographic process, comprising the steps of performing a lithographic process to create a lithographic structure and metallization of said lithographic structure.